EduSahara™ Assignment

Name : Matrix Multiplication Concepts

Chapter : Matrices

Grade : ICSE Grade X

1. The order of matrix A = $\begin{bmatrix} -3 \\ 0 \end{bmatrix}$ is

   (i) 2 × 2 (ii) 3 × 1 (iii) 2 × 1 (iv) 1 × 2 (v) 1 × 1

2. The order of matrix A = $\begin{bmatrix} 3 & 5 \end{bmatrix}$ is

   (i) 2 × 1 (ii) 2 × 3 (iii) 1 × 3 (iv) 1 × 2 (v) 2 × 2

3. The order of matrix A = $\begin{bmatrix} -1 & -2 & 4 \end{bmatrix}$ is

   (i) 1 × 3 (ii) 2 × 4 (iii) 2 × 3 (iv) 1 × 4 (v) 3 × 1

4. The order of matrix A = $\begin{bmatrix} 2 & 3 \\ 3 & -1 \end{bmatrix}$ is

   (i) 1 × 2 (ii) 2 × 2 (iii) 2 × 3 (iv) 3 × 2 (v) 2 × 1

5. If the elements of matrix A are multiplied with -1 , we get

   (i) additive identity of A (ii) multiplicative identity of A (iii) multiplicative inverse of A

   (iv) additive inverse of A

6. If the elements of matrix A are multiplied with 0 , we get

   (i) additive inverse of A (ii) multiplicative inverse of A (iii) multiplicative identity of A

   (iv) additive identity of A

7. A 5 × 4 matrix has

   a) 5 rows and 4 columns
   b) 4 rows and 5 columns
   c) 9 rows and 4 columns
   d) 5 rows and 20 columns

   (i) {c,a} (ii) {a} (iii) {b,a} (iv) {d,b,a}

8. Which of the following are true for matrices A and B ?

   a) If AB = 0, A = 0 or B = 0 or both A and B are zero matrices
   b) The orders of (A×B) and (B×A) are same
   c) If A and B can be added, they must have the same order
   d) If A and B can be multiplied, they must have the same order

   (i) {a,c} (ii) {b,c} (iii) {c} (iv) {d,a,c}

9. Which of the following are true ?

a) If matrices A & B can be multiplied, they must have the same order
b) If AB = 0, then A = 0 or B = 0 or both A & B are 0
c) If matrices A & B can be added, they must have the same order
d) The order of $(A \times B)$ and $(B \times A)$ is same

(i) {d,a,c} (ii) {a,c} (iii) {c} (iv) {b,c}

10. Which of the following are true for matrices A, B and C ?

a) $A \times (B + C) = (A \times B) + (A \times C)$
b) $(A \times I) = (I \times A) = I$
c) $(A + B) \times C = (A \times B) + (A \times C)$
d) $(A \times I) = (I \times A) = A$
e) $(A \times B) = (B \times A)$
f) $A \times (B \times C) = (A \times B) \times C$

(i) {b,a} (ii) {e,b,f} (iii) {c,d} (iv) {c,a,d} (v) {a,d,f}

11. If the order of matrix A is $m \times n$ and B is $n \times o$, then the order of $(A \times B)$ is

(i) $m \times o$ (ii) $o \times m$ (iii) $m \times n$ (iv) $n \times o$

12. Which of the following are true ?

a) If A X B is possible, the no of rows in A must be equal to no of rows in B
b) If A X B is possible, the no of cols in A must be equal to no of rows in B
c) If A X B is possible, the no of rows in A must be equal to no of cols in B
d) If A X B is possible, the no of cols in A must be equal to no of cols in B

(i) {b} (ii) {a,b} (iii) {c,b} (iv) {d,a,b}

13. If $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ and $B = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$, then $(A \times B) =$

(i) $\begin{bmatrix} ap + br & cp + dr \\ aq + bs & cq + ds \end{bmatrix}$ (ii) $\begin{bmatrix} ap + br & aq + bs \\ cp + dr & cq + ds \end{bmatrix}$ (iii) $\begin{bmatrix} ap + bq & ar + bs \\ cp + dq & cr + ds \end{bmatrix}$

(iv) $\begin{bmatrix} ap + cq & ar + cs \\ bp + dq & br + ds \end{bmatrix}$ (v) $\begin{bmatrix} pa + qc & pb + qd \\ ra + sc & rb + sd \end{bmatrix}$

14. If $A = \begin{bmatrix} a & b & c \\ d & e & f \end{bmatrix}$ and $B = \begin{bmatrix} p & q \\ r & s \\ t & u \end{bmatrix}$, then $(A \times B) =$

(i) $\begin{bmatrix} pa + qd & pb + qe & pc + qf \\ ra + sd & rb + se & rc + sf \\ ta + ud & tb + ue & tc + uf \end{bmatrix}$ (ii) $\begin{bmatrix} a & b & c \\ d & e & f \end{bmatrix}$ (iii) $\begin{bmatrix} ap + br + ct & dp + er + ft \\ aq + bs + cu & dq + es + fu \end{bmatrix}$

(iv) $\begin{bmatrix} ap + dq & ar + ds & at + du \\ bp + eq & br + es & bt + eu \\ cp + fq & cr + fs & ct + fu \end{bmatrix}$ (v) $\begin{bmatrix} ap + br + ct & aq + bs + cu \\ dp + er + ft & dq + es + fu \end{bmatrix}$

15. If A = $\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$ and B = $\begin{bmatrix} p & q & r \\ s & t & u \\ v & w & x \end{bmatrix}$,

then (A×B) =

(i) $\begin{bmatrix} ap + bq + cr & as + bt + cu & av + bw + cx \\ dp + eq + fr & ds + et + fu & dv + ew + fx \\ gp + hq + ir & gs + ht + iu & gv + hw + ix \end{bmatrix}$ (ii) $\begin{bmatrix} ap + bs + cv & dp + es + fv & gp + hs + iv \\ aq + bt + cw & dq + et + fw & gq + ht + iw \\ ar + bu + cx & dr + eu + fx & gr + hu + ix \end{bmatrix}$

(iii) $\begin{bmatrix} ap + bs + cv & aq + bt + cw & ar + bu + cx \\ dp + es + fv & dq + et + fw & dr + eu + fx \\ gp + hs + iv & gq + ht + iw & gr + hu + ix \end{bmatrix}$ (iv) $\begin{bmatrix} ap + dq + gr & as + dt + gu & av + dw + gx \\ bp + eq + hr & bs + et + hu & bv + ew + hx \\ cp + fq + ir & cs + ft + iu & cv + fw + ix \end{bmatrix}$

(v) $\begin{bmatrix} pa + qd + rg & pb + qe + rh & pc + qf + ri \\ sa + td + ug & sb + te + uh & sc + tf + ui \\ va + wd + xg & vb + we + xh & vc + wf + xi \end{bmatrix}$

16. If A = $\begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix}$ and B = $\begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \end{bmatrix}$,

then (A×B) =

(i) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} & a_{21}b_{11} + a_{22}b_{21} \\ a_{11}b_{12} + a_{12}b_{22} & a_{21}b_{12} + a_{22}b_{22} \end{bmatrix}$ (ii) $\begin{bmatrix} a_{11}b_{11} + a_{21}b_{12} & a_{11}b_{21} + a_{21}b_{22} \\ a_{12}b_{11} + a_{22}b_{12} & a_{12}b_{21} + a_{22}b_{22} \end{bmatrix}$

(iii) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} & a_{11}b_{12} + a_{12}b_{22} \\ a_{21}b_{11} + a_{22}b_{21} & a_{21}b_{12} + a_{22}b_{22} \end{bmatrix}$ (iv) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{12} & a_{11}b_{21} + a_{12}b_{22} \\ a_{21}b_{11} + a_{22}b_{12} & a_{21}b_{21} + a_{22}b_{22} \end{bmatrix}$

(v) $\begin{bmatrix} b_{11}a_{11} + b_{12}a_{21} & b_{11}a_{12} + b_{12}a_{22} \\ b_{21}a_{11} + b_{22}a_{21} & b_{21}a_{12} + b_{22}a_{22} \end{bmatrix}$

17. If A = $\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{bmatrix}$ and B = $\begin{bmatrix} b_{11} & b_{12} \\ b_{21} & b_{22} \\ b_{31} & b_{32} \end{bmatrix}$,

then (A×B) =

(i) $\begin{bmatrix} b_{11}a_{11} + b_{12}a_{21} & b_{11}a_{12} + b_{12}a_{22} & b_{11}a_{13} + b_{12}a_{23} \\ b_{21}a_{11} + b_{22}a_{21} & b_{21}a_{12} + b_{22}a_{22} & b_{21}a_{13} + b_{22}a_{23} \\ b_{31}a_{11} + b_{32}a_{21} & b_{31}a_{12} + b_{32}a_{22} & b_{31}a_{13} + b_{32}a_{23} \end{bmatrix}$

(ii) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} + a_{13}b_{31} & a_{11}b_{12} + a_{12}b_{22} + a_{13}b_{32} \\ a_{21}b_{11} + a_{22}b_{21} + a_{23}b_{31} & a_{21}b_{12} + a_{22}b_{22} + a_{23}b_{32} \end{bmatrix}$ (iii) $\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \end{bmatrix}$

(iv) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} + a_{13}b_{31} & a_{21}b_{11} + a_{22}b_{21} + a_{23}b_{31} \\ a_{11}b_{12} + a_{12}b_{22} + a_{13}b_{32} & a_{21}b_{12} + a_{22}b_{22} + a_{23}b_{32} \end{bmatrix}$

(v) $\begin{bmatrix} a_{11}b_{11} + a_{21}b_{12} & a_{11}b_{21} + a_{21}b_{22} & a_{11}b_{31} + a_{21}b_{32} \\ a_{12}b_{11} + a_{22}b_{12} & a_{12}b_{21} + a_{22}b_{22} & a_{12}b_{31} + a_{22}b_{32} \\ a_{13}b_{11} + a_{23}b_{12} & a_{13}b_{21} + a_{23}b_{22} & a_{13}b_{31} + a_{23}b_{32} \end{bmatrix}$

18. If A = $\begin{bmatrix} a_{11} & a_{12} & a_{13} \\ a_{21} & a_{22} & a_{23} \\ a_{31} & a_{32} & a_{33} \end{bmatrix}$ and B = $\begin{bmatrix} b_{11} & b_{12} & b_{13} \\ b_{21} & b_{22} & b_{23} \\ b_{31} & b_{32} & b_{33} \end{bmatrix}$,

then (A×B) =

(i) $\begin{bmatrix} a_{11}b_{11} + a_{21}b_{12} + a_{31}b_{13} & a_{11}b_{21} + a_{21}b_{22} + a_{31}b_{23} & a_{11}b_{31} + a_{21}b_{32} + a_{31}b_{33} \\ a_{12}b_{11} + a_{22}b_{12} + a_{32}b_{13} & a_{12}b_{21} + a_{22}b_{22} + a_{32}b_{23} & a_{12}b_{31} + a_{22}b_{32} + a_{32}b_{33} \\ a_{13}b_{11} + a_{23}b_{12} + a_{33}b_{13} & a_{13}b_{21} + a_{23}b_{22} + a_{33}b_{23} & a_{13}b_{31} + a_{23}b_{32} + a_{33}b_{33} \end{bmatrix}$

(ii) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{12} + a_{13}b_{13} & a_{11}b_{21} + a_{12}b_{22} + a_{13}b_{23} & a_{11}b_{31} + a_{12}b_{32} + a_{13}b_{33} \\ a_{21}b_{11} + a_{22}b_{12} + a_{23}b_{13} & a_{21}b_{21} + a_{22}b_{22} + a_{23}b_{23} & a_{21}b_{31} + a_{22}b_{32} + a_{23}b_{33} \\ a_{31}b_{11} + a_{32}b_{12} + a_{33}b_{13} & a_{31}b_{21} + a_{32}b_{22} + a_{33}b_{23} & a_{31}b_{31} + a_{32}b_{32} + a_{33}b_{33} \end{bmatrix}$

(iii) $\begin{bmatrix} b_{11}a_{11} + b_{12}a_{21} + b_{13}a_{31} & b_{11}a_{12} + b_{12}a_{22} + b_{13}a_{32} & b_{11}a_{13} + b_{12}a_{23} + b_{13}a_{33} \\ b_{21}a_{11} + b_{22}a_{21} + b_{23}a_{31} & b_{21}a_{12} + b_{22}a_{22} + b_{23}a_{32} & b_{21}a_{13} + b_{22}a_{23} + b_{23}a_{33} \\ b_{31}a_{11} + b_{32}a_{21} + b_{33}a_{31} & b_{31}a_{12} + b_{32}a_{22} + b_{33}a_{32} & b_{31}a_{13} + b_{32}a_{23} + b_{33}a_{33} \end{bmatrix}$

(iv) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} + a_{13}b_{31} & a_{11}b_{12} + a_{12}b_{22} + a_{13}b_{32} & a_{11}b_{13} + a_{12}b_{23} + a_{13}b_{33} \\ a_{21}b_{11} + a_{22}b_{21} + a_{23}b_{31} & a_{21}b_{12} + a_{22}b_{22} + a_{23}b_{32} & a_{21}b_{13} + a_{22}b_{23} + a_{23}b_{33} \\ a_{31}b_{11} + a_{32}b_{21} + a_{33}b_{31} & a_{31}b_{12} + a_{32}b_{22} + a_{33}b_{32} & a_{31}b_{13} + a_{32}b_{23} + a_{33}b_{33} \end{bmatrix}$

(v) $\begin{bmatrix} a_{11}b_{11} + a_{12}b_{21} + a_{13}b_{31} & a_{21}b_{11} + a_{22}b_{21} + a_{23}b_{31} & a_{31}b_{11} + a_{32}b_{21} + a_{33}b_{31} \\ a_{11}b_{12} + a_{12}b_{22} + a_{13}b_{32} & a_{21}b_{12} + a_{22}b_{22} + a_{23}b_{32} & a_{31}b_{12} + a_{32}b_{22} + a_{33}b_{32} \\ a_{11}b_{13} + a_{12}b_{23} + a_{13}b_{33} & a_{21}b_{13} + a_{22}b_{23} + a_{23}b_{33} & a_{31}b_{13} + a_{32}b_{23} + a_{33}b_{33} \end{bmatrix}$

19. If A = $\begin{bmatrix} (-7) & 6 \end{bmatrix}$, B = $\begin{bmatrix} x \\ y \end{bmatrix}$, then $(A\times B)$ =

(i) $\begin{bmatrix} (-7x) & (-7y) \\ 6x & 6y \end{bmatrix}$ (ii) $\begin{bmatrix} (-7x+6y) \\ (-7x+6y) \end{bmatrix}$ (iii) $\begin{bmatrix} (-7x+6y) \end{bmatrix}$ (iv) $\begin{bmatrix} (-7x+6y) & (-7x+6y) \end{bmatrix}$

(v) $\begin{bmatrix} (-7x) & 6x \\ (-7y) & 6y \end{bmatrix}$

20. Find $\begin{bmatrix} x & y \end{bmatrix}\begin{bmatrix} a & b \\ c & d \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix}$

(i) $\begin{bmatrix} xay + y^2b + x^2c + ydx \end{bmatrix}$ (ii) $\begin{bmatrix} x^2a + ybx + xcy + y^2d \end{bmatrix}$ (iii) $\begin{bmatrix} x^2 + y^2 \end{bmatrix}$

(iv) $\begin{bmatrix} x^2a + ycx + xby + y^2d \end{bmatrix}$ (v) $\begin{bmatrix} x^2a + xyc & x^2b + xyd \\ yxa + y^2c & yxb + y^2d \end{bmatrix}$

21. If the order of matrix A is $m \times n$ and B is $n \times o$ and C is $o \times p$, then the order of $(A\times B)\times C$ is

(i) $n \times p$ (ii) $m \times o$ (iii) $p \times m$ (iv) $m \times p$ (v) $o \times m$

22. If the order of matrix $(A\times B)$ is 5×5 and the order of B = 2×5, then the order of A is ?

(i) 6×2 (ii) 5×3 (iii) 6×3 (iv) 5×1 (v) 5×2

23. If the order of matrix $(A\times B)$ is 2×4 and the order of A = 2×3, then the order of B is ?

(i) 3×5 (ii) 2×4 (iii) 4×5 (iv) 4×4 (v) 3×4

24. If A = $\begin{bmatrix} 8 & 3 \\ 6 & -9 \end{bmatrix}$ and the sum of the values of elements of matrix kA = 64 , find k

(i) 9 (ii) 11 (iii) 8 (iv) 7 (v) 6

25. Find the multiplicative identity of matrix A = $\begin{bmatrix} 9 & 5 \\ 7 & -7 \end{bmatrix}$

(i) $\begin{bmatrix} 1 & -2 \\ 0 & 1 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ (iv) $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 0 \\ 0 & 1 \end{bmatrix}$

26. Find the multiplicative identity of matrix A = $\begin{bmatrix} 3 & 3 & 0 \\ 1 & 0 & -2 \\ -2 & -4 & 2 \end{bmatrix}$

(i) $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 1 & 1 \end{bmatrix}$ (ii) $\begin{bmatrix} 1 & 0 & 0 \\ -2 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ (iii) $\begin{bmatrix} 1 & 0 & 0 \\ 2 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ (iv) $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & -1 & 1 \end{bmatrix}$ (v) $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$

27. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} 2 & 3 \\ -8 & 8 \end{bmatrix}, \begin{bmatrix} 9 & 5 \\ 4 & -9 \\ 5 & -8 \end{bmatrix}$ (ii) $\begin{bmatrix} 2 & 3 \\ -8 & 8 \end{bmatrix}, \begin{bmatrix} -9 & 8 \end{bmatrix}$ (iii) $\begin{bmatrix} -5 \\ 5 \\ 2 \end{bmatrix}, \begin{bmatrix} 9 & 5 \\ 4 & -9 \\ 5 & -8 \end{bmatrix}$ (iv) $\begin{bmatrix} 2 & -1 & 9 \end{bmatrix}, \begin{bmatrix} 6 & -5 & 1 \\ -8 & 3 & 6 \end{bmatrix}$

(v) $\begin{bmatrix} 2 & 3 \\ -8 & 8 \end{bmatrix}, \begin{bmatrix} -2 & 2 \\ 4 & 1 \end{bmatrix}$

28. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} 6 & -3 \\ -3 & -3 \\ -3 & 8 \end{bmatrix}, \begin{bmatrix} -3 & 2 & 1 \\ 4 & 4 & -8 \end{bmatrix}$ (ii) $\begin{bmatrix} -1 & 7 \\ -1 & -2 \end{bmatrix}, \begin{bmatrix} 6 & -3 \\ -3 & -3 \\ -3 & 8 \end{bmatrix}$ (iii) $\begin{bmatrix} 6 \\ 0 \\ 2 \end{bmatrix}, \begin{bmatrix} 6 & -3 \\ -3 & -3 \\ -3 & 8 \end{bmatrix}$ (iv) $\begin{bmatrix} -5 & -8 & 7 \end{bmatrix}, \begin{bmatrix} -3 & 2 & 1 \\ 4 & 4 & -8 \end{bmatrix}$

(v) $\begin{bmatrix} -1 & 7 \\ -1 & -2 \end{bmatrix}, \begin{bmatrix} -2 & 4 \end{bmatrix}$

29. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} 8 \\ -5 \\ 1 \end{bmatrix}, \begin{bmatrix} -3 & 0 \\ 7 & 3 \\ 6 & -5 \end{bmatrix}$ (ii) $\begin{bmatrix} 0 & -1 & -1 \end{bmatrix}, \begin{bmatrix} 1 & -1 & -7 \\ 9 & -6 & 6 \end{bmatrix}$ (iii) $\begin{bmatrix} -6 & -3 \\ 5 & 2 \end{bmatrix}, \begin{bmatrix} -3 & 0 \\ 7 & 3 \\ 6 & -5 \end{bmatrix}$ (iv) $\begin{bmatrix} 7 & 1 \end{bmatrix}, \begin{bmatrix} 2 \\ -8 \end{bmatrix}$

(v) $\begin{bmatrix} -6 & -3 \\ 5 & 2 \end{bmatrix}, \begin{bmatrix} 7 & 1 \end{bmatrix}$

30. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} -6 & 0 \\ 6 & 5 \end{bmatrix}, \begin{bmatrix} -6 & 8 \\ 0 & 7 \\ -1 & -4 \end{bmatrix}$ (ii) $\begin{bmatrix} -6 & 0 \\ 6 & 5 \end{bmatrix}, \begin{bmatrix} 5 & -9 \end{bmatrix}$ (iii) $\begin{bmatrix} -5 \\ 6 \\ 8 \end{bmatrix}, \begin{bmatrix} 2 & -7 & -3 \end{bmatrix}$ (iv) $\begin{bmatrix} -5 \\ 6 \\ 8 \end{bmatrix}, \begin{bmatrix} -6 & 8 \\ 0 & 7 \\ -1 & -4 \end{bmatrix}$

(v) $\begin{bmatrix} 2 & -7 & -3 \end{bmatrix}, \begin{bmatrix} -9 & -2 & 0 \\ -7 & -3 & 3 \end{bmatrix}$

31. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} -1 & 7 & -4 \\ 8 & 6 & -1 \end{bmatrix}, \begin{bmatrix} -1 \\ -8 \\ 7 \end{bmatrix}$ (ii) $\begin{bmatrix} -3 & 4 & 6 \end{bmatrix}, \begin{bmatrix} -1 & 7 & -4 \\ 8 & 6 & -1 \end{bmatrix}$ (iii) $\begin{bmatrix} 8 & -6 \\ 3 & 4 \end{bmatrix}, \begin{bmatrix} 1 & -2 \end{bmatrix}$ (iv) $\begin{bmatrix} 8 & -6 \\ 3 & 4 \end{bmatrix}, \begin{bmatrix} -1 & 1 \\ -3 & 5 \\ -1 & 2 \end{bmatrix}$

(v) $\begin{bmatrix} -1 \\ -8 \\ 7 \end{bmatrix}, \begin{bmatrix} -1 & 1 \\ -3 & 5 \\ -1 & 2 \end{bmatrix}$

32. Which of the following pairs of matrices can be multiplied?

(i) $\begin{bmatrix} 0 & 2 \\ 9 & -6 \end{bmatrix}, \begin{bmatrix} 8 & -1 \\ 5 & -5 \\ -6 & -9 \end{bmatrix}$ (ii) $\begin{bmatrix} 0 & 2 \\ 9 & -6 \end{bmatrix}, \begin{bmatrix} -6 & -3 \end{bmatrix}$ (iii) $\begin{bmatrix} -9 & -2 & 6 \end{bmatrix}, \begin{bmatrix} 3 & -9 & 7 \\ 8 & 6 & 3 \end{bmatrix}$ (iv) $\begin{bmatrix} -6 & -3 \end{bmatrix}, \begin{bmatrix} 3 & -9 & 7 \\ 8 & 6 & 3 \end{bmatrix}$

(v) $\begin{bmatrix} -6 \\ -8 \\ -7 \end{bmatrix}, \begin{bmatrix} 8 & -1 \\ 5 & -5 \\ -6 & -9 \end{bmatrix}$

33. If A and B are given as below, neither $(A \times B)$ nor $(B \times A)$ is possible for which of the following pairs?

(i) 1×2 , 2×3 (ii) 2×3 , 3×1 (iii) 1×3 , 2×3 (iv) 3×1 , 1×3 (v) 1×2 , 2×1

34. If A and B are given as below, neither $(A \times B)$ nor $(B \times A)$ is possible for which of the following pairs?

(i) $1 \times 2 , 2 \times 3$ (ii) $3 \times 1 , 1 \times 3$ (iii) $1 \times 2 , 2 \times 1$ (iv) $2 \times 3 , 3 \times 1$ (v) $3 \times 2 , 1 \times 2$

35. If A and B are given as below, neither $(A \times B)$ nor $(B \times A)$ is possible for which of the following pairs?

(i) $1 \times 2 , 2 \times 1$ (ii) $2 \times 3 , 3 \times 1$ (iii) $1 \times 2 , 2 \times 3$ (iv) $3 \times 1 , 1 \times 3$ (v) $2 \times 2 , 3 \times 3$

36. If A and B are given as below, neither $(A \times B)$ nor $(B \times A)$ is possible for which of the following pairs?

(i) $2 \times 3 , 3 \times 1$ (ii) $3 \times 1 , 3 \times 2$ (iii) $3 \times 1 , 1 \times 3$ (iv) $1 \times 2 , 2 \times 3$ (v) $1 \times 2 , 2 \times 1$

37. If A and B are given as below, neither $(A \times B)$ nor $(B \times A)$ is possible for which of the following pairs?

(i) $1 \times 2 , 2 \times 1$ (ii) $3 \times 1 , 1 \times 3$ (iii) $2 \times 3 , 3 \times 1$ (iv) $3 \times 1 , 3 \times 2$ (v) $1 \times 2 , 2 \times 3$

38. Express the following equation in the matrix form

$a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$

(i) $\begin{bmatrix} a_1 & b_1 \\ a_2 & b_2 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix}\begin{bmatrix} c_1 \\ c_2 \end{bmatrix} = 0$ (ii) $\begin{bmatrix} a_1 & b_1 \\ a_2 & b_2 \end{bmatrix}\begin{bmatrix} c_1 \\ c_2 \end{bmatrix} + \begin{bmatrix} x \\ y \end{bmatrix} = 0$

(iii) $\begin{bmatrix} a_1 & a_2 \\ b_1 & b_2 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} + \begin{bmatrix} c_1 \\ c_2 \end{bmatrix} = 0$ (iv) $\begin{bmatrix} a_1 & b_1 \\ a_2 & b_2 \end{bmatrix}\begin{bmatrix} x \\ y \end{bmatrix} + \begin{bmatrix} c_1 \\ c_2 \end{bmatrix} = 0$

Assignment Key

1) (iii)	2) (iv)	3) (i)	4) (ii)	5) (iv)	6) (iv)
7) (ii)	8) (iii)	9) (iii)	10) (v)	11) (i)	12) (i)
13) (ii)	14) (v)	15) (iii)	16) (iii)	17) (ii)	18) (iv)
19) (iii)	20) (iv)	21) (iv)	22) (v)	23) (v)	24) (iii)
25) (iii)	26) (v)	27) (v)	28) (i)	29) (iv)	30) (iii)
31) (i)	32) (iv)	33) (iii)	34) (v)	35) (v)	36) (ii)
37) (iv)	38) (iv)				